

**STATEMENT OF WORK**  
**for the**  
**VESSEL TRAFFIC SERVICES**  
**SYSTEM INTEGRATION CONTRACTOR**

**6 November 1997**

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## **1.0 SCOPE**

The System Integration Contractor (referred to as the SIC or Contractor) will install, test, support, train, and maintain the Vessel Traffic Service (hereafter referred to as VTS) system(s) in ports and waterways of the United States. The off-the-shelf VTS systems will consist of components built on an open system architecture that allows for easy modification. Attention will be focused on flexibility, adaptability, scalability, and the ability to accommodate new functions, when appropriate. The Contractor will work with the Coast Guard and the Coast Guard's Systems Engineer (SE) and Independent Verification and Validation (IV&V) Contractor. The work will be accomplished under task orders.

The work for the first port, New Orleans, will be accomplished under a two-phase approach. The first phase will consist of two task orders awarded to provide equipment to evaluate the Digital Selective Calling /Automatic Identification System capabilities (hereafter referred to as DSC/AIS) and to specify the requirements for a Vessel Traffic Center (VTC). Following successful results from the first phase, a task order will be awarded to install a VTS system in New Orleans using the Government-provided VTC which the SIC designed during the first phase.

## 2.0 APPLICABLE DOCUMENTS

A list of the documents referenced in this Statement of Work (SOW) is presented below. Compliance with these documents is required to the degree specified within this SOW. All referenced documents are available on the Internet.

### 2.1 COAST GUARD DOCUMENTS

<u>Document Number</u>	<u>Document Title</u>	<u>Version Date</u>
No Number	PAWSS Project Configuration Management Plan (CMP)	1 October 1997
No Number	PAWSS Project Integrated Logistics Support Plan (ILSP)	30 September 1997
No Number	System Specification for the Vessel Traffic Services System	31 October 1997
No Number	Test and Evaluation Master Plan (TEMP) for the Port and Waterways Safety System (PAWSS) Project	2 October 1997
1721798	System Interface Design Document for the Surface Search Radar Program (Draft)	1 July 1997
NO NUMBER	Radar Data Service Communication User Manual for the Surface Search Radar Program (Draft)	1 July 1997
NO NUMBER	Interface Control Document for Voice and Data Communications to the Baseline VTS System at the Gretna Light Facility (Draft)	6 November 1997

**2.2 NON-GOVERNMENT DOCUMENTS**

<u>Document Number</u>	<u>Document Title</u>	<u>Version</u> <u>Date</u>
ISO 9000	Quality Management and Quality Assurance Standards	1991
8/1015-E	Draft Revision of Recommendation ITU-R M.825-1, Characteristics of a Transponder System Using Digital Selective Calling Techniques for Use with Vessel Traffic Services and Ship-to-Ship Identification	3 July 1996
ISO/IEC 12207	Information Technology - Software Life Cycle Processes	1995

### **3.0 REQUIREMENTS**

This section describes the work the Contractor shall perform for the first phase of New Orleans (Section 3.1) and the second phase of New Orleans and all work for other ports (Section 3.2). The first phase of New Orleans includes the DSC/AIS test support at the Gretna Light facility and the plans for constructing the New Orleans VTC.

The Contractor shall provide all services and supplies necessary to accomplish task orders, except for Government Furnished Property (GFP) and Government Furnished Information (GFI) as specified in the Contract and in the task order(s). The software and hardware delivered in response to this SOW shall meet the requirements of the System Specification for the VTS System (hereafter referred to as the Specification) and the task order(s).

#### **3.1 NEW ORLEANS BASELINE SYSTEM IMPLEMENTATION AND VTC DESIGN**

##### **3.1.1 Project Management**

###### **3.1.1.1 Project Management Planning**

The Contractor shall develop a plan of action for managing the specific port-related work tasks. The Contractor shall document the plan for all active task orders in a single Management Plan (CDRL 001, *Contractor's Management Plan*). Planning activities shall include, at a minimum, risk management practices and mechanisms for controlling resources and schedule. The Management Plan shall include a Master Integrated Project Schedule for all active task orders. Changes to the Master Integrated Project Schedule shall not be made without Government approval. The Contractor shall implement, update, and maintain the Management Plan.

###### **3.1.1.2 Project Management Reviews (PMR)**

The Contractor shall conduct Project Management Reviews (PMRs) at the Coast Guard Headquarters in Washington, DC as required in the task orders. Upon mutual agreement, a PMR may be held in New Orleans. The PMRs shall cover all active task orders and shall be scheduled to occur at the time of significant events defined in the task orders (e.g., at the



time of the 35% or 95% reviews for construction design tasks, or when planning tests of the system).

#### **3.1.1.2.1 Preparation**

The Contractor shall submit an agenda for each PMR at least five days prior to the PMR. At the beginning of each PMR, the Contractor shall provide the attendees with hard copies of all overhead transparencies and other materials that are to be presented during the review (CDRL 002, *Program Management and Design Review Documentation*).

#### **3.1.1.2.2 Conduct**

At each PMR, the Contractor shall report progress and work status to the Government and shall address: risk management issues and activities including the current Project Watchlist; any changes in the approaches presented in plans or foreseeable delays and associated schedule recovery actions; and any changes in the Contractor's and subcontractors' organizations.

#### **3.1.1.2.3 Results**

The Contractor shall record issues and action items that result from the review and shall assign responsibility for individual action items and the proposed schedule for action item resolution. The Contractor shall submit minutes of the PMR to complete the PMR documentation (CDRL 002, *Program Management and Design Review Documentation*).

#### **3.1.1.3 Progress Reports**

The Contractor shall monitor and evaluate the activities on every active task order and report to the Government the project's Risk Watchlist as well as the technical and management status as required by the task order (CDRL 003, *Status and Management Progress Report*).

### **3.1.2 Software Planning and Design**

The Contractor shall plan for any software adaptation necessary for the baseline system and integration activities that will occur during the New Orleans Baseline VTS System Implementation and VTC Design.

#### **3.1.2.1 Commercial/Government Off-The-Shelf Software**

The Contractor shall provide a system that consists primarily of off-the-shelf software and minimizes new development software. The off-the-shelf software may be Commercial Off-The-Shelf (COTS), Government Off-The-Shelf (GOTS), or both.

**3.1.2.2 New Software**

The Contractor shall design any new software required to adapt the VTS system for the Gretna Light facility DSC/AIS evaluations (see Section 3.1.3). All new software, whether used for linking existing routines or modifying existing code, shall be written in accordance with the Contractor's standard software development practices using ISO/IEC 12207 as a guide. The Contractor shall write all new software in accordance with the Contractor's software standard unless otherwise directed by task order.

**3.1.3 New Orleans Baseline VTS System Implementation to Support DSC/AIS Evaluation at Gretna Light in New Orleans, LA****3.1.3.1 Operational Segment**

The Contractor shall install the basic system architecture with a single workstation at the Gretna Light facility in New Orleans. The purpose of this installation is to:

- a. Test the ability of the DSC/AIS Baseline System to meet the draft revision requirements ITU-R M.825-1 while accommodating a large number of DSC/AIS contacts (up to 100) in a ship-to-shore and shore-to-ship mode,
- b. Gather data to assist the Program Sponsor in determining staffing standards for DSC/AIS VTS watchstanding, and
- c. Replace the existing radar at the Gretna Light facility with a radar meeting the requirements of the Specification.

**3.1.3.1.1 DSC/AIS Communications**

The Coast Guard will upgrade the Very High Frequency (VHF) communications along the lower Mississippi River to DSC/AIS to permit DSC/AIS testing to be accomplished. The Contractor shall provide the interface equipment at the Gretna Light facility to receive data from the Coast Guard-provided remote VHF radio and DSC/AIS equipment to incorporate DSC/AIS capability into the baseline system.

#### **3.1.3.1.2 DSC/AIS Transponders**

The Coast Guard will provide transponders to be placed on board vessels to perform the DSC/AIS tests. The Contractor will not be responsible for any ship installations or associated tasks, but shall be responsible for processing data received from these transponders via the DSC/AIS interface.

#### **3.1.3.1.3 Radar at Gretna Light Facility**

The Contractor shall replace the existing radar at the Gretna Light facility with a radar and radar processor meeting the requirements of the independent sensor in the Specification. Instructions for the disposal of the existing radar shall be provided in Task Order #1. The Contractor may use the existing tower for mounting the radar, if desired.

#### **3.1.3.2 Facilities Segment**

The Contractor shall be responsible for the following items for the Facilities Segment.

##### **3.1.3.2.1 Gretna Light Facility Layout**

The Contractor shall design the equipment layout for the Gretna Light facility in accordance with the requirements of the Specification and Task Order #1. The layout shall show the location of the single workstation and the other system components installed in the operations area or in separate shelters beneath or near the Gretna Light facility. The Contractor shall submit the design in the form of artist conceptual sketches, photographs, or drawings for presentation at the Design Review (see Section 3.1.5) for Coast Guard approval. The Contractor shall document site preparation requirements and the installation plan (CDRL 004, *Site Preparation Requirements and Facility Installation Plan*).

##### **3.1.3.2.2 Gretna Light Facility Installation**

The Contractor shall install the necessary equipment for DSC/AIS testing in accordance with Task Order #1. Gretna Light is an operational facility and disruption of service from that facility shall be minimized. Equipment installation or other disrupting activities may only be accomplished by advance agreement with the Coast Guard. Due to the limited space available in the facility, the Contractor shall plan on a maximum of two people, other than the Coast Guard Traffic Light Operator, being present in the facility at any time that the light is in operational use.

The SIC shall be responsible for any facility modifications required at the Gretna Light facility to install or house equipment and the new radar. Supply of additional power and environmental control shall also be the responsibility of the SIC.

#### **3.1.3.3 Support Segment**

The Contractor shall design the support systems necessary to sustain the operational functions of the baseline system used for DSC/AIS testing in accordance with Task Order #1. At the Design Review (see Section 3.1.5), the Contractor shall describe the approach for maintaining the system at the Gretna Light facility until the equipment is moved to the VTC.

#### **3.1.4 Vessel Traffic Center (VTC) Layout**

The Contractor shall design the equipment layouts for the New Orleans VTC in accordance with the requirements of the Specification and Task Order #2. The layouts shall indicate how the furnishings are positioned in the various areas and how the VTC operator's equipment and the equipment room equipment will fit within the areas provided. The Contractor shall submit these designs in the form of artist conceptual sketches, photographs, or drawings for presentation at the Baseline System and Facilities Layout Design Review (see Section 3.1.5) for Coast Guard approval. The floor plans shall allow for the inclusion of additional operational workstations in the event of an increase in the size of the New Orleans VTS Area (VTSA) as described in the task order #2. The Contractor shall submit the list of furnishings needed in each space beyond the VTS system equipment together with the layouts to permit the Coast Guard to order them.

The actual build out of the VTC may be completed by the building owner or may be a separate task order to the SIC.

#### **3.1.5 Design Review for the DSC/AIS Baseline VTS System and Facilities Layout**

Within 30 days after Task Order #1 award, the Contractor shall conduct a design review of the baseline VTS system to be installed at the Gretna Light facility. The design review shall demonstrate the optimization, completeness, cost effectiveness, and risk associated with system and segment designs for the baseline system to be installed at the Gretna Light facility under Task Order #1. The Contractor shall also present preliminary facilities layouts for the VTC as part of Task Order #2. The Contractor shall discuss the modification required at the Gretna Light

facility and how that work would be accomplished and shall discuss the build-out requirements to be developed for the VTC.

#### **3.1.5.1 Preparation**

The Contractor shall submit an agenda for the design review to the Government five days before the review. The Contractor shall provide attendees with hard copies of all overhead transparencies and other materials to be presented during the design review (CDRL 002, *Program Management and Design Review Documentation*).

#### **3.1.5.2 Conduct**

The design review shall include, but not be limited to, the following:

- a. The Contractor shall review the radar replacement and baseline system integration requirements, including requirements for operations, maintenance, testing, on-the-job training, hardware, software, facilities, personnel, and preliminary logistics support considerations.
- b. The Contractor shall present the baseline system operational concepts, design, and processing resources. The Contractor shall present the system design in terms of the HWCIs (hardware configuration items), CSCIs (software configuration items), and interfaces that comprise the COTS system and shall indicate the adaptations that are necessary to the baseline system for DSC/AIS evaluation at the Gretna Light facility.
- c. The Contractor shall describe how the baseline system and the replacement radar will be installed at the Gretna Light facility without interfering with, or with limited interference to, the light operator's functions.
- d. The Contractor shall describe the DSC/AIS test operator's interaction with the baseline system and shall present the layouts of the operator's equipment. The Contractor shall discuss the merits and rationale for the recommended approach.
- e. The Contractor shall indicate plans for on-the-job training and support of the effort at Gretna Light facility installed until the transition to the VTC under Task Order #3.

f. The Contractor shall present preliminary plans for the layout of the VTC and shall discuss the build-out that will be necessary.

g. The Contractor shall present plans for replacing the radar at the Governor Nicholls Light facility and shall discuss how the installation of the equipment will minimize interference to the traffic light operator. Disposal instructions for the existing radar will be provided in Task Order #3.

#### **3.1.5.3 Results**

The Contractor shall conduct an Executive Session at the end of the design review to review action items and their disposition and to provide an opportunity for preliminary responses to action items. The Contractor shall submit minutes of the design review session and any associated meetings that occur between Government and Contractor personnel to complete the design review documentation (CDRL 002, *Program Management and Design Review Documentation*).

#### **3.1.6 Training and Support During Testing**

The Contractor shall support the Coast Guard by operating and maintaining the system during the Coast Guard DSC/AIS Baseline VTS System Evaluation Tests. This will follow completion of the limited Developmental Test and Evaluation (DT&E) testing to prove system suitability to start Coast Guard DSC/AIS testing.

The Contractor shall train Coast Guard personnel in the use of the baseline system as required by task order. The training shall be conducted on the equipment installed at the Gretna Light facility during the period that the Contractor is supporting Coast Guard DSC/AIS Baseline VTS System Evaluation Testing. The Contractor shall prepare any training materials necessary to assist the Coast Guard watchstanders in operating the DSC/AIS Baseline VTS System (CDRL 005, *Training Manuals*).

#### **3.1.7 Transition to VTC**

The Contractor shall plan for the installation of the DSC/AIS baseline system into the New Orleans VTC after its build-out. The movement of the equipment from the Gretna Light facility shall not interfere with the operation of the traffic light operator, and shall not be initiated until the equivalent functions are available at the New Orleans VTC. The Contractor shall develop a Baseline VTS System

Transition Plan for Government approval (CDRL 006, *Operational Transition Plan*).

### **3.2 SYSTEM IMPLEMENTATION IN A PORT**

This section and all of its subsections are applicable to all Port Implementation efforts.

When directed by the issuance of a task order, the Contractor shall perform the tasks necessary for:

- (1) The installation of the VTS system capability at a port without an existing VTS system,
- (2) The expansion of a previously-installed VTS system capability,
- (3) The retrofit of a non-VTS system port with VTS system capability,
- (4) The installation of enhancements in ports with previously-installed VTS system capability, or
- (5) Providing support, training, or maintenance.

The Government will identify the VTSA in the task order.

#### **3.2.1 Project Management**

The Contractor shall update the Management Plan (CDRL 001, *Contractor's Management Plan*) as necessary to reflect all active task orders (see also Section 3.1.1). The Contractor shall participate in meetings of the various teams, boards, and working groups, as requested. These groups include the Integrated Logistics Support Management Team (ILSMT), the Test Management Oversight Team (TMOT), the Configuration Control Board, the Site Acquisition Teams (SATs), and the Risk Management Steering Group.

##### **3.2.1.1 Project Schedule**

The Contractor shall develop detailed schedules for each task order and update the Master Integrated Project Schedule in the Management Plan to include these schedules (see Section 3.1.1.1) (CDRL 001, *Contractor's Management Plan*). Changes to the Master Integrated Project Schedule shall not be made without Government approval.

##### **3.2.1.2 Project Management Reviews (PMR)**

The Contractor shall conduct PMRs on all active task orders, at a common PMR meeting, as required by the task orders.

The Contractor shall conduct these PMRs at least once quarterly. The Government will notify the Contractor of the dates for reviews at least two weeks prior to the date of the meeting. Unless otherwise approved by the Government, these reviews shall alternate between the Contractor's facility and Coast Guard Headquarters. The review shall be scheduled to occur at the time of significant events defined in the task orders (e.g., at the time of the 35% or 95% reviews of design on construction tasks, or when planning tests of the system).

#### **3.2.1.2.1 Preparation**

The Contractor shall submit the agenda for the PMR five days prior to the PMR. The Contractor shall provide the attendees with hard copies of all overhead transparencies and other materials that are to be presented during the review (CDRL 002, *Program Management and Design Review Documentation*).

#### **3.2.1.2.2 Conduct**

At each PMR, the Contractor shall report progress and work status to the Government and shall address: risk management areas and activities including the current Watchlist; any changes in the approaches presented in plans or foreseeable delays and associated schedule recovery actions; and any changes in the Contractor's and subcontractors' organizations.

#### **3.2.1.2.3 Results**

The Contractor shall record issues and action items that result from the review and shall assign responsibility for individual action items and the proposed schedule for action item resolution. The Contractor shall submit minutes of the PMR to complete the PMR documentation (CDRL 002, *Program Management and Design Review Documentation*).

#### **3.2.1.3 Progress Reports**

The Contractor shall monitor and evaluate the activities on every active task order and report to the Government the project's technical and management status on a monthly basis (CDRL 003, *Status and Management Progress Report*).

#### **3.2.2 Configuration Management (CM)**

The Contractor shall provide and implement a Configuration Management Plan (CMP) for the VTS system (CDRL 007, *Contractor's Configuration Management Plan*). The Contractor's CMP shall conform with the Government's CMP.



The Contractor shall maintain the system, following the procedures in the accepted CMP throughout the contract life.

#### **3.2.2.1 Internal Configuration Management Program**

The Contractor shall support Government Configuration Management (CM) and conduct an internal CM program in accordance the Contractor's Configuration Plan (CDRL 007, *Contractor's Configuration Management Plan*). Proposed changes to the Contractor's CMP shall be reviewed at technical reviews or PMRs. The Contractor's procedures shall be consistent with the Government's CM procedures as provided in the Government's CMP Plan supplied as Government furnished information (GFI) with Task Order #1.

#### **3.2.2.2 Status Accounting**

The Contractor shall identify, control, and audit the functional and physical characteristics of Government-approved configuration items (CIs) within the VTS system and shall implement status accounting procedures to meet the Government's need for information as defined in the Government's CMP. The Contractor shall describe the organizations and procedures for executing these functions in the Contractor's CMP.

#### **3.2.2.3 Configuration Identification**

The Contractor shall be responsible for configuration identification. Configuration identification shall include the selection of CIs and documents (identified in the system) and determination of the types of configuration documentation required for each CI. In addition, it shall include the issuance of numbers and other identifiers affixed to the CIs and to the technical documentation that comprises the CIs' configuration documentation.

#### **3.2.2.4 Baseline Control**

The Contractor shall establish and control internal CM baselines for hardware, software, and interface control documentation that will be submitted to the Government for formal approval at the appropriate design review (see Section 3.2.2.4). The Contractor shall develop procedures for change and release control and shall recommend procedures for a formal Government approval process.

#### **3.2.2.5 Change Control**

The Contractor shall track Engineering Change Proposals (ECPs) initiated for proposed changes to the approved configuration documentation. The Contractor shall submit

Class I and II ECPs (CDRL 008, *Engineering Change Proposal*) for Government approval. Classification disagreements shall be referred to the Government for final decision.

Concurrent with the preparation of an ECP, the Contractor shall prepare and submit for Government approval a Specification Change Notice (SCN) (CDRL 009, *Specification Change Notice*) for any Specification that would require revision if the ECP is approved.

#### **3.2.2.6 Version Description**

All changes, after the initial version of each CSCI identified in the system software is baselined, shall be classified as either Class I or Class II changes. These changes shall be listed as such in the Version Description Document (VDD) (CDRL 010, *Version Description Document*) for every release of the CSCI. The VDD identifies all changes to the software source and object code for all active versions.

#### **3.2.2.7 Deviation and Waiver**

The Contractor shall submit Requests for Deviation (RFD) (CDRL 011, *Request for Deviation*) and Requests for Waiver (RFW) (CDRL 012, *Request for Waiver*), as required, for temporary departure from requirements that do not constitute a change to configuration documentation. RFDs and RFWs do not constitute permanent changes. Permanent changes require an ECP and an associated SCN.

#### **3.2.2.8 Configuration Status Accounting System**

The Contractor shall implement and maintain a Configuration Status Accounting System (CSAS) to record and report on the status of baselined System and any identified CIs. The recording and reporting shall include the information necessary to manage the hardware and software configuration throughout its life cycle. The Contractor shall use the CSAS to report the actual configuration identification of the items, types of warranties and maintenance agreements, process changes, change history, approved changes, implementation of approved changes, and audit action item status (CDRL 013, *Configuration Status Accounting Information*). The Contractor shall provide the Government with this system data for review upon request. Upon completion of the contract, the Contractor shall turn over to the Government all data.

##### **3.2.2.8.1 Master Library of Changes**

The Contractor shall establish and maintain a master library for tracking, access control, and physical storage of ECPs,

SCNs, RFDs, and RFWs, and shall ensure implementation of all approved changes.

#### **3.2.2.9 Configuration Audit Plan**

The Contractor shall support Government-conducted configuration audits. The Contractor shall provide a Configuration Audit Plan for each configuration audit appropriate for the type and scope of each audit (CDRL 014, *Configuration Audit Plan*).

#### **3.2.2.10 Configuration Audits**

The Contractor shall notify the Government when ready and shall prepare an agenda for each configuration audit. The Contractor shall identify and record discrepancies between the material and the requirements delineated in the applicable technical documents. The Contractor shall prepare and submit a Configuration Audit Summary Report at the conclusion of each functional and physical configuration audit (FCA and PCA) (CDRL 015, *Configuration Audit Summary Report*).

#### **3.2.3 Risk Management Program**

The Contractor shall plan and implement a risk management program that includes a continuing analysis of the risks associated with the cost, schedule, and technical parameters and describes the reduction of those risks to an acceptable level through effective management. The Contractor shall address risk analysis, risk reduction, and risk management. The Contractor shall document risk management activities and report progress to the Government in the Progress Reports (see Section 3.2.1.3).

##### **3.2.3.1 Risk Analysis**

This analysis shall include identification and assessment of risk; the likelihood of occurrence; evaluation of the impact of risk on cost, schedule, and technical performance; and the identification of alternatives to avoid or minimize risk.

##### **3.2.3.2 Risk Reduction**

This activity shall involve the selection of risk reduction alternatives, definition of courses of action to implement risk reduction alternatives, commitment of staff, and financial resources to support risk reduction actions.

### **3.2.3.3 Risk Management**

This activity shall establish a procedure to monitor progress of risk management activities, and report results of the risk management program to the Government (see Section 3.2.1.3).

### **3.2.4 Reliability, Maintainability, and Availability (RMA)**

The Contractor shall maintain a Reliability, Maintainability, and Availability (RMA) Program. The Contractor shall ensure that the VTS system RMA characteristics presented in the Technical Proposal are not degraded during manufacturing and test. The VTS system required by the task order(s) shall meet the RMA requirements of the Specification.

#### **3.2.4.1 RMA Predictions**

The Contractor shall prepare, and update as appropriate, the system RMA predictions (CDRL 016, *Reliability, Maintainability, and Availability Predictions and Support Analysis*) for the port and present these predictions at the design review (see Section 3.2.5.3).

#### **3.2.4.2 RMA data**

The Contractor shall analyze the system's RMA data to isolate faults and determine weaknesses in the system. The Contractor shall present recommendations on the provisioning of spare parts philosophy and on system enhancements to improve RMA at a PMR (see Section 3.2.1.2) or at the technical review (see Section 3.2.5.3).

### **3.2.5 Implementation Functions**

#### **3.2.5.1 Preliminary Port Survey**

Sites for the VTC, sensors, and communications equipment may be provided by the Government as GFE, or may be identified by the Contractor for lease by the Government. When directed by task order, the Contractor shall conduct a port survey to estimate the number of sites necessary, locate potential remote sites and a VTC location, and recommend a preliminary set of sites, hardware, and software for the port.

In selecting sites, the Contractor shall consider at a minimum the availability of power, access, physical security, environmental aspects, DSC/AIS and communications coverage, tower height, and sensor/antenna placement for optimum VTSA coverage, accuracy, availability, and cost.

This survey shall include DSC/AIS and voice communications coverage analyses to assist in site selection, where appropriate. The Contractor shall submit the results in a Port/Site Survey Report (CDRL 017, *Port/Site Survey Report*).

When the Government selects the sites, the Contractor shall survey the sites and identify any anticipated performance deficiencies based on the VTS system requirements.

### **3.2.5.2 System Design**

The Contractor shall modify the VTS system design to meet the requirements of the Specification, if necessary, and shall develop and install the system in the port as directed by the task order. Task orders may be for any of the port implementation types (new, expanded, retrofit, or enhanced). The VTS system shall include two operator workstations unless otherwise specified in the task order.

#### **3.2.5.2.1 Unique Function Assessment**

The Contractor shall add any unique function (required by the port characteristics) to the VTS system design for each port as specified in the task order.

#### **3.2.5.2.2 Port Specific System Description**

All VTS systems shall use the same configuration to the maximum extent possible. The Contractor shall document the detailed design which meets the Specification requirements by preparing a Port Specific System Description identifying all of the CIs, the quantities, the site locations, and complements of equipment, including version numbers and all facilities documentation, to provide documentation for the entire port system (CDRL 018, *Port Specific System Documentation*). This documentation shall include engineering drawings (see paragraph 3.2.5.6.3.4) and technical manuals (see paragraph 3.2.5.6.3.5). The Port Specific System Description shall be used by the Contractor during the System Design Review for the port to describe any unique port functions. The Contractor shall update the Port Specific System Description when the system design has changed.

### **3.2.5.3 System Design Reviews (SDR)**

The Contractor shall conduct an SDR on each port to demonstrate the optimization, completeness, cost effectiveness, and risk associated with system and segment designs for each port. The Contractor shall conduct the SDR at the Contractor's facility.

**3.2.5.3.1 Preparation**

The Contractor shall submit an agenda for the review to the Government five days prior to the review. The Contractor shall provide hard copies of all overhead transparencies and other materials to be presented during the review to the SDR attendees (CDRL 002, *Program Management and Design Review Documentation*).

**3.2.5.3.2 Conduct**

The Contractor shall conduct the SDR which shall include, but not be limited to, all site-unique functions, coverage, and system-level design changes (see Section 3.2.5.5).

**3.2.5.3.3 Results**

The Contractor shall submit minutes of all SDR sessions and any associated meetings that occur between Government and Contractor personnel to complete the Design Review Documentation. Minutes shall include a list of Government and Contractor action items resulting from the SDR, and the proposed schedule for action item resolution (CDRL 002, *Program Management and Design Review Documentation*).

**3.2.5.4 Plan Updates**

The Contractor shall update and maintain the Management Plan (CDRL 001, *Contractor Management Plan*) and any other plans approved by the Government, as necessitated by the unique features of the new port.

**3.2.5.5 Detailed System Design**

The Contractor shall perform detailed system design for each port to ensure that all local requirements are fulfilled and that the appropriate equipment for sensor and communications coverage is provided. The Contractor shall update, as required, the system description provided in the Contractor's proposal, or previously delivered system description, and shall document the design in the Port Specific System Description (CDRL 018, *Port Specific System Documentation*).

**3.2.5.5.1 Interface Control**

The Contractor shall prepare interface control documents and shall maintain these documents during enhancements to the system. See 3.2.5.5.3 and 3.2.5.5.4.

#### **3.2.5.5.2 Interface Control Working Group (ICWG)**

The Contractor shall provide interface management and shall establish contract agreements with interfacing Contractors governing the conduct of interface. The Contractor shall participate in the Government's Interface Control Working Group (ICWG). The Contractor representative to the ICWG shall be empowered to commit the Contractor to specific interface actions and agreements. When possible, ICWG members will be notified at least two weeks in advance of any meetings. The Contractor shall prepare and distribute the working group meeting agendas and minutes (CDRL 019, *Working Group Agenda and Minutes*) and shall report Interface Control Management Data to the Government in the Progress Reports (see Section 3.2.1.3).

#### **3.2.5.5.3 Hardware Configuration Items**

The Contractor shall design, control, and document the interfaces among HWCIs and external equipment (CDRL 020, *Interface Control Document*).

#### **3.2.5.5.4 Computer Software Configuration Items**

The Contractor shall design, control, and document the interfaces among CSCIs and external connections (CDRL 020, *Interface Control Document*).

#### **3.2.5.5.5 Requirements Traceability Matrix**

The Contractor shall substantiate the VTS system design and each Port Specific System design with a Requirements Traceability Matrix (RTM) (CDRL 021, *Requirements Traceability Matrix*) that organizes, presents, and provides a comprehensive rationale for the relationship between requirements and capabilities. The Contractor shall demonstrate that each requirement has been implemented as a capability in the design. All requirements will be identified in a task order and in the Specification through the use of the verb "shall." The Contractor shall use the RTM to trace between (a) the most detailed, current design documentation, and (b) the task order and the Specification. The Contractor shall update and resubmit the RTM for approval whenever the system design is changed.

#### **3.2.5.6 System Segments**

##### **3.2.5.6.1 Operational Segment**

The Contractor shall provide the Operational Segment of the VTS system in accordance with the Specification. The Contractor shall also include the following items.

**3.2.5.6.1.1 DSC/AIS Equipment**

The Contractor shall incorporate into the design any Government furnished DSC/AIS equipment identified in the task order, and shall provide any additional DSC/AIS equipment necessary to meet the requirements of the Specification. The DSC/AIS equipment shall be designed on an open-system architecture capable of being modified as the international standards for AIS evolve.

**3.2.5.6.1.2 Radar**

The Contractor shall provide radar(s) which meets the requirements of the Specification when required by the task order. The Contractor shall install these radar(s) in locations selected by the Government, or selected by the Contractor during site surveys, and approved by the Government.

The Government may elect to provide a Surface Search Radar (SSR) and its associated Radar Data Processor as GFE to the Contractor for installation, in place of the Contractor-selected radar, if specified in the task order, (see Section 2.1 for list of SSR interface documents).

**3.2.5.6.1.3 Government Sensors**

The Contractor shall incorporate into the design any Government-furnished sensors and other equipment identified in the task order. The Contractor shall provide any additional sensors necessary to meet the requirements of the Specification.

**3.2.5.6.1.4 Communications Equipment**

The Contractor shall develop the Communications portion of the VTS system operational segment in accordance with the Specification. The Contractor shall also include the following items.

**3.2.5.6.1.4.1 Existing Equipment And Facilities**

The Contractor shall evaluate for usability the equipment, including radios and the frequencies on which they operate, as identified in the task order, and facilities (e.g., towers, buildings, power) already in place at ports with existing VTS system equipment or facilities. The Contractor shall recommend the use of existing communications equipment and facilities, where appropriate, and shall provide those necessary to supplement them, to meet the needs of the VTS system.



**3.2.5.6.1.4.2 Communications/Network plans**

The Contractor shall design a communications system and prepare the Communications/Network Plan(s) for each port and submit them to the Government for approval (CDRL 022, *Communications Network Plan*).

**3.2.5.6.1.4.3 Telecommunications Services Requests (TSR)**

All non-radio communications services will be acquired and maintained through Government contracts. The Contractor shall prepare Telecommunications Service Requests (TSRs) (CDRL 023, *Telecommunications Service Request*) for feeder landlines and supporting documentation needed by the Government to procure, install, and maintain the communications services required by the Contractor's design. Each feeder TSR, requesting a specific service, shall include the technical, performance, and service demarcation requirements of the service.

**3.2.5.6.1.5 Workstations**

The Contractor shall provide workstations which meet the requirements of the Specification, in the quantities required by the task order, or as proposed by the Contractor and approved by the Government.

**3.2.5.6.1.6 Closed-Circuit Television**

The Contractor shall provide closed-circuit television (CCTV) equipment which meets the requirements of the Specification, in the quantities required by the task order.

**3.2.5.6.2 Facilities Segment**

The Contractor shall plan for the installation and maintenance of the Facilities Segment and shall meet the requirements of the Specification in accordance with the task order.

**3.2.5.6.2.1 Site Preparation Requirements**

The Contractor shall prepare a Site Preparation Requirements and Installation Plan which discusses each site at a port (CDRL 004, *Site Preparation Requirements and Facilities Installation Plan*).

**3.2.5.6.2.2 Environmental Planning**

When directed by task order, the Contractor shall identify the need for, and prepare the necessary environmental documents including environmental assessments (EA),

environmental impact statements (EISs), Findings of No Significant Impact (FONSIs), and other associated documents required by Federal, State, or Local authorities to install/construct on the proposed sites identified in the task order (CDRL 024, *Environmental Documentation*).

#### **3.2.5.6.2.3 Remote Towers And Shelters**

The Contractor shall plan and construct towers (including foundations, as necessary) and shelters for operation and maintenance of equipment at remote locations in accordance with the Specification and any applicable local regulations. The Contractor shall be responsible for selecting the proper tower design and height to prevent vessel and terrain screening; installing equipment, power, and remote interfaces to the sites; and providing physical access, physical security, and maintenance. The Contractor shall document and submit the design of these towers, buildings, and other structures to the Government for approval (CDRL 025, *Remote Site Structure Documentation*).

#### **3.2.5.6.2.4 VTC Facilities**

The Contractor shall locate a facility for housing each VTC, unless the task order specifies the location. The Contractor shall design and build-out the VTC facility to meet the requirements of the Specification and any applicable local regulations. The Contractor shall design the equipment layout, area furnishings, communications, power, lighting, and HVAC within the VTC.

#### **3.2.5.6.3 Support Segment**

The Contractor shall meet the requirements of the Specification in providing the Support Segment required by the task order.

##### **3.2.5.6.3.1 Test Bed**

The Contractor shall design a VTS system test bed at the Contractor's facility in accordance with the Specification, if required by task order. The Contractor shall include the necessary equipment to support a minimum of two VTC operators in the test bed. The design shall be documented in the Port Specific Design Description (CDRL 018, *Port Specific Design Documentation*) and the equipment layout shall be provided in the Site Preparation and Installation Plans (CDRL 004, *Site Preparation Requirements and Facility Installation Plan*).

### **3.2.5.6.3.2 Training**

The Contractor shall provide hands-on equipment operations training for such Government personnel as (1) VTC operators and supervisors; (2) system administrators; and (3) instructors for each course. Training shall be conducted in accordance with standard commercial practices. The Contractor shall prepare a detailed Training Plan (CDRL 026, *Training Plan*). The plan shall include the schedule and locations of all training, instructor qualifications, and details on how training will be conducted for the VTS system as specified in the task order. The Contractor shall prepare training manuals (CDRL 005, *Training Manuals*) and conduct the training using the approved training manuals. The Contractor shall provide the instructors and any tools, special fixtures, and facilities needed. All tools, special fixtures and equipment, as appropriate, shall become the property of the Government.

### **3.2.5.6.3.3 Maintenance**

The Contractor shall plan for the maintenance of the equipment in each port after acceptance of the VTS system installed under the task order.

#### **3.2.5.6.3.3.1 Maintenance of Government Provided Equipment**

In ports where the Government provides the SSR and its radar processor or provides existing radars, radar processors, or other equipment as GFE, the Contractor shall maintain the equipment as part of the VTS system at that port. Where the Government provides GFE radars, or other equipment, the Government will provide the Contractors with spare parts for the equipment's maintenance and will provide maintenance training to at least five Contractor personnel.

#### **3.2.5.6.3.3.2 Integrated Support Plan**

The Contractor shall plan and prepare an Integrated Support Plan (ISP) to reflect the design and support concepts, support facilities, spares, maintenance philosophy, and preventive maintenance schedule (CDRL 027, *Integrated Support Plan (ISP)*). The ISP shall conform to the Government's Integrated Logistics Support Plan (ILSP).

#### **3.2.5.6.3.3.3 Maintenance Schedule**

The Contractor shall amend the Contractor's Management Plan to include a Planned Maintenance Schedule (CDRL 001, *Contractor's Management Plan*) that lists all weekly,

monthly, quarterly, and annual maintenance to be performed at each port and at the test bed and all scheduled down time.

#### **3.2.5.6.3.3.4 Preventive Maintenance**

The Contractor shall perform preventive maintenance on equipment installed at each port and at the test bed in accordance with the approved ISP and the Maintenance Schedule.

#### **3.2.5.6.3.3.5 Maintenance Transition Plan**

The Contractor shall prepare a plan for transitioning maintenance from the Contractor to the Coast Guard or a third party (CDRL 028, *Maintenance Transition Plan*). The plan shall reference appropriate delivered documents and suggest any needed training or other information necessary to allow the maintenance to transition to the Coast Guard or a third party and still permit the Coast Guard to retain the operational availability of the system.

#### **3.2.5.6.3.4 Engineering Drawings**

The Contractor shall provide all as-built design and maintenance documentation and drawings necessary such that the Government or a third party could maintain Contractor-supplied equipment delivered as part of the VTS system. The documentation shall be in the English language. Electronic copies of all documents and drawings, when available, shall also be provided. Documents are preferred in Continuous Acquisition and Life-Cycle Support (CALS) compliant format, where available. Existing documents and drawings will be acceptable for COTS/GOTS equipment. System level documentation and drawings shall be required. These documents shall be included in the Port Specific System Documentation (CDRL 018, *Port Specific System Documentation*).

#### **3.2.5.6.3.5 Technical Manuals**

The Contractor shall provide the following documents using their standard commercial documentation, to the maximum extent possible: (1) System Technical Manual, which may be supplemented with Subsystem Technical Manuals, if necessary; (2) Equipment Technical Manuals where available, or as directed by task order to supplement the System Technical Manual; and (3) Software User's Manual. Documents are preferred in CALS compliant format, where available. All documents shall be in the English language. These documents shall be included in the Port Specific System Documentation (CDRL 018, *Port Specific System Documentation*).

**3.2.5.7 System Installation****3.2.5.7.1 Office Space**

The Contractor shall provide access to an office, telephone, and facsimile service at the Contractor's facility for Government's use, when requested by the Government. The Government will provide the Contractor with at least one week advance notice of need.

**3.2.5.7.2 Remote Site Construction**

The Contractor shall perform all work to construct remote sites in accordance with the approved Site Preparation Requirements and Installation Plan for the port (see Section 3.2.5.6.2.3).

**3.2.5.7.3 VTC Construction**

The Contractor shall perform all work, including renovation, in accordance with the approved Site Preparation Requirements and Installation Plan for the port (see Section 3.2.5.6.2.4), unless otherwise specified by task order.

**3.2.5.7.4 System Installation**

The Contractor shall install the port system as required in the Specification in accordance with the task order. The Contractor shall procure and install equipment, and interconnect all equipment between the remote sites, external systems, and VTC at each port (see Section 3.2.5.2).

**3.2.5.7.5 Test Bed**

The Contractor shall implement the test bed as specified in the Specification and the task order, and as described in the Contractor's system description (see Section 3.2.5.6.3.1).

**3.2.5.8 Operational Transition Planning at Sites with VTS Systems**

The Contractor shall plan for the installation of the VTS system without disruption to the operations of the existing VTS system until the new VTS system has been operationally accepted. The Contractor shall develop an Operational Transition Plan for Government approval (CDRL 006, *Operational Transition Plan*).

### **3.2.5.9 Operations and Maintenance**

#### **3.2.5.9.1 Test Bed**

As specified by task order, the Contractor shall operate and maintain the Test Bed.

#### **3.2.5.9.2 Port System**

As specified by task order, the Contractor shall maintain the VTS system accepted by the Government in each port. The VTS system to be maintained in the port shall consist of all of the equipment supplied by the Contractor as well as the GFE (radars, etc.) provided by the Government.

#### **3.2.5.9.3 System Initialization Backup**

The Contractor shall provide system software and startup software to permit reloading the system in the event that the system and initialization software at the VTC is damaged. This software shall be safeguarded from malicious or physical damage at a location local to the VTC. The location may be a Government or Contractor facility. The facility will not be considered as a port facility requiring drawings and other documentation, other than defining the location and procedure for accessing this recovery software in the Port Specific System Description (CDRL 018, *Port Specific System Documentation*).

#### **3.2.5.9.4 System Performance Report**

The Contractor shall collect data to generate System Performance Reports which shall include statistics on Equipment Availability (CDRL 029, *System Performance Report*).

#### **3.2.5.10 Training Courses**

As specified by task order, the Contractor shall conduct the courses, as required by task order, using the approved training manuals and shall provide the personnel, tools, special fixtures, and facilities.

#### **3.2.5.11 Test Bed Transition**

As specified by task order, the Contractor shall transition the test bed to a Government facility. The Contractor shall be responsible for all relocation tasks involved in disassembling, moving, and restoring the test bed to full operation.

## **4.0 QUALITY ASSURANCE REQUIREMENTS**

### **4.1 BASELINE SYSTEM QUALITY ASSURANCE TASKS**

#### **4.1.1 Quality Programs**

The Contractor shall implement, manage, and maintain a quality program that complies with ISO 9000 and the Specification. The Contractor shall incorporate Government participation in quality assurance activities, including obtaining Government approval to proceed at appropriate test and evaluation events.

#### **4.1.2 System Certification Prior to Installation**

The Contractor shall perform equipment check-out and certify to the Government prior to shipping and installing the baseline system at the Gretna Light facility that the integrated system meets the performance criteria required for the baseline system by the Specification while it is being used in the DSC/AIS evaluation.

#### **4.1.3 Limited Developmental Test and Evaluation (DT&E)**

The Contractor shall conduct limited DT&E at the Gretna Light facility. The Contractor shall select methods to verify the conformance of the baseline system to demonstrate that it is capable of displaying and tracking DSC/AIS and radar reports and tracks. The Contractor shall prepare plans and procedures for the tests to be conducted to verify that the DSC/AIS portions of the system will collect and track the appropriate data and permit access to other system data as needed during the Coast Guard's evaluation of this method of monitoring activities on the waterway. The Contractor's test plan and test procedures (CDRL 030, *Contractor's Test Plan/Procedures*) shall ensure that the system is capable of allowing the Coast Guard to evaluate the DSC/AIS functions as presented in the Coast Guard's Test Plan for DSC/AIS Evaluation.

### **4.2 QUALITY ASSURANCE TASKS**

The Contractor shall continue to implement the Contractor's Quality Program.

#### **4.2.1 Test Program**

The Contractor shall plan, develop, implement, manage, and maintain a Test Program and deliver the plan to the Government (CDRL 030, *Contractor's Test Plan/Procedures*).

The plan shall document the complete phased sequence of all system performance tests and system acceptance tests.

#### **4.2.2 Software Test Program**

The Contractor shall plan, develop, implement, manage, and maintain a software test program for testing modifications to the software. The Contractor shall document the software test program in the Contractor's Test Plan (CDRL 030, *Contractor's Test Plan/Procedures*).

#### **4.2.3 Conduct Of Verification Activities**

The Contractor shall plan each verification activity by documenting clearly delineated roles and responsibilities, detailed procedures, and objective acceptance criteria. The Contractor shall conduct each verification activity in accordance with these plans, log all actions taken and other relevant information, and shall provide a report of the activity (CDRL 031, *Test/Inspection Reports*).

#### **4.2.4 Verification of VTS System Performance**

The Contractor shall verify that the VTS system has the capability and capacity to perform in accordance with all contractual requirements. The verification of performance of each Port VTS System shall be completed in accordance with the applicable test event milestones contained in test plans and procedures (CDRL 030, *Test Plans/Procedures*) and the Master Integrated Program Schedule contained in the Contractor's Management Plan (CDRL 001, *Contractor's Management Plan*). Verification of system performance shall be conducted in two progressive stages: DT&E and Operational Test and Evaluation (OT&E). The Contractor shall be required to pass the DT&E tests which shall result in system acceptance. The Coast Guard will then perform OT&E testing, with support from the Contractor. Capabilities need only to be verified once, and subsequent verification activities and phases do not need to verify earlier capabilities. The Contractor shall provide the Government with the opportunity to witness every verification activity, and shall provide ten calendar days advance notice of each activity.

##### **4.2.4.1 System Certification Prior to Installation**

Prior to shipping a system to a port, the system shall be tested on the System Test Bed, if a test bed has been established. The simulation or emulation capabilities of the System Test Bed may be used instead of actual sensor and communications subsystems. Facility subsystems, such as power, climate control, and room sizes shall be



provisionally verified through replicating their form, fit, and function with the system under test at the test location. The Contractor shall perform equipment check-out and certify to the Government, prior to shipping and installing a system in a port, that the integrated system meets the performance criteria required by the Specification and the SOW.

#### **4.2.4.2 Developmental Test and Evaluation (DT&E)**

The Contractor shall perform DT&E testing at the port to verify the complete end-to-end, integrated functionality (hardware, software, and interface functionality) of each Port System as installed in each port. System acceptance shall occur when all DT&E testing has been satisfactorily completed and all deficiencies have been rectified.

##### **4.2.4.2.1 System Pretest**

The Contractor shall first completely install and check out each Port System, then the Contractor shall functionally exercise the complete Port System (with the exception of radio transmission) for 48 continuous, failure-free hours prior to beginning the final phase of DT&E testing, System Acceptance Test and Evaluation.

##### **4.2.4.2.2 System Acceptance Test and Evaluation**

System Acceptance Test and Evaluation activities shall begin with Subsystem Tests and Evaluations of the communications, sensors, and facilities subsystems, in place, that are part of the Port System. Particular emphasis shall be placed on verifying that the installed Port System is capable of operating in the port environmental and electromagnetic environment during the entire elapsed time period between installation and acceptance.

System Acceptance Test and Evaluation activity shall utilize actual, rather than simulated or emulated, sensor and communications input to the extent available, and shall test the overall operation of the VTS system. However, when necessary, the Contractor shall provide a simulator to test the radar and DSC/AIS systems to demonstrate compliance with the Specification. As part of the end-to-end DT&E testing, the Contractor shall conduct an uninterrupted two-week test to evaluate operational availability and to ensure the system meets the SOW and the Specification requirements. During this availability test, the system shall be fully loaded, receiving data from up to 100 DSC/AIS transponders and 200 targets per radar scan.

#### **4.2.4.2.3 Other Acceptance Testing**

Replacement, Expansion, and Upgrade acceptance testing shall also be conducted, where appropriate, in accordance with the Operational Transition Plan (CDRL 006, *Operational Transition Plan*), to ensure that there is minimal interference between system evaluation and ongoing, existing VTS system operations.

#### **4.2.4.3 Government Oversight Of System Verification Activities**

The Contractor shall permit and assist the Government and certain designated Associate Contractors, including the System Engineer and IV&V Contractor, and selected local maritime and port representatives to oversee all verification activities. The Contractor shall provide the necessary information, data, and physical access to facilities to allow oversight of verification tasks. Oversight will include the following:

- a. Surveillance of activities to determine that practices, methods, and procedures contained in quality program plans are being properly applied.
- b. Government product inspection of items prior to delivery to estimate their quality.
- c. Government product inspection of delivered products to ensure compliance with verification requirements of the Specification.
- d. IV&V of software under development. The Government will notify the Contractor at least five working days prior to any IV&V activity (if possible) and will state the purpose and objectives of the IV&V activity.
- e. Operational test activities shall follow system acceptance. This activity will occur while the Contractor is providing maintenance support of the system following acceptance.

#### **4.3 Calibration And Maintenance Of Measurement And Test Equipment**

The Contractor shall calibrate and maintain all (deliverable and non-deliverable) measurement and test equipment used in the verification of system performance. The Contractor shall label all calibrated equipment with its last

calibration date, its calibration due date, and the  
calibrator's initials.

**APPENDIX A: List of Acronyms**

AIS	Automatic Identification System
CALS	Continuous Acquisition and Life-Cycle Support
CCTV	Closed-Circuit Television
CDRL	Contract Data Requirements List
CI	Configuration Item
CMP	Configuration Management Plan
COTS	Commercial Off-The-Shelf
CSAS	Configuration Status Accounting System
CSCI	Computer Software Configuration Item
DSC	Digital Selective Calling
DT&E	Developmental Test and Evaluation
EA	Environmental Assessment
ECP	Engineering Change Proposal
EIS	Environmental Impact Statement
FCA	Functional Configuration Audit
FONSI	Findings of No Significant Impact
GFE	Government Furnished Equipment
GFI	Government Furnished Information
GFP	Government Furnished Property
GOTS	Government Off-The-Shelf
HWCI	Hardware Configuration Item
ICD	Interface Control Document
ICWG	Interface Control Working Group
ILSMT	Integrated Logistics Support Management Team
ISP	Integrated Support Plan
IV&V	Independent Verification and Validation
OT&E	Operational Test and Evaluation
PCA	Physical Configuration Audit
PAWSS	Ports and Waterways Safety System
PMR	Project Management Review

**LIST OF ACRONYMS (Continued)**

RFD	Requests for Deviation
RFW	Requests for Waiver
RMA	Reliability, Maintainability, and Availability
RTM	Requirements Traceability Matrix
SATs	Site Activation Teams
SCN	Specification Change Notice
SDR	System Design Review
SE	System Engineer
SIC	System Integration Contractor
SOW	Statement Of Work
SSR	Surface Search Radar
TBD	To Be Determined
TMOT	Test Management Oversight Team
TSR	Telecommunications Service Request
VDD	Version Description Document
VHF	Very High Frequency
VTC	Vessel Traffic Center
VTs	Vessel Traffic Service
VTSA	Vessel Traffic Service Area

**APPENDIX B: LIST OF CDRLs**

The Offeror shall provide an uncompressed electronic copy of the text of each document created on this project on separate diskettes. Electronic submission shall be on 3.5 inch, 1.44 MB diskettes using Microsoft Word version 7.0 or later. All diskettes shall be write-protected and no file shall be password protected. Diskettes shall be labeled to indicate the Contractor's name, CDRL number, and date of submission. The Contractor shall screen all disks for computer viruses prior to submittal to the Coast Guard. Graphics, tables, photographs, etc., beyond the capability of Microsoft Word and Excel, or not compatible with versions used to prepare the Contractor's CDRL, may be submitted in hard copy only. Existing documentation of off-the-shelf products are acceptable and supplementary materials may be submitted where minor changes to existing documents are necessary. The copy of CDRLs delivered to ACS may be paper or electronic.

CDRL 001, *Contractor's Management Plan*

CDRL 002, *Program Management and Design Review  
Documentation: Agenda, Presentation Materials, and  
Minutes*

CDRL 003, *Status and Management Progress Report*

CDRL 004, *Site Preparation Requirements and Facility  
Installation Plan*

CDRL 005, *Training Manuals*

CDRL 006, *Operational Transition Plan*

CDRL 007, *Contractor's Configuration Management Plan*

CDRL 008, *Engineering Change Proposal*

CDRL 009, *Specification Change Notice*

CDRL 010, *Version Description Document*

CDRL 011, *Request for Deviation*

CDRL 012, *Request for Waiver*

**LIST OF CDRLs (Continued)**

CDRL 013, *Configuration Status Accounting Information*

CDRL 014, *Configuration Audit Plan*

CDRL 015, *Configuration Audit Summary Report: Functional (FCA) and Physical (PCA)*

CDRL 016, *Reliability, Maintainability, and Availability Predictions and Support Analysis*

CDRL 017, *Port/Site Survey Report*

CDRL 018, *Port Specific System Documentation*

CDRL 019, *Working Group Agenda and Minutes*

CDRL 020, *Interface Control Document*

CDRL 021, *Requirements Traceability Matrix*

CDRL 022, *Communications Network Plan*

CDRL 023, *Telecommunications Service Request*

CDRL 024, *Environmental Documentation: EAs, EISs, and FONSI*

CDRL 025, *Remote Site Structure Documentation*

CDRL 026, *Training Plan*

CDRL 027, *Integrated Support Plan (ISP)*

CDRL 028, *Maintenance Transition Plan*

CDRL 029, *System Performance Report*

CDRL 030, *Contractor's Test Plan/Procedures*

CDRL 031, *Test/Inspection Reports*